Zhichao Chen/ Ziciu Can (Wade-Giles)

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https://ziciucanjustus.github.io/

EXPERIENCE

Doctor of Philosophy Candidate, College of Control Sceince and Engineering, Zhejiang University Oct 2020–Now
Supervised by Zhihuan Song and Zhiqiang Ge on industrial process data analytics
- Theoretically derived graph mining and utilization of industrial process.
- Derive latent variable learning algorithm from the perspective of optimization/control theory.

Research Intern, Microsoft Research AI4Science Asia   Apr 2023–Oct 2023
Supervised by Chang Liu and Bin Shao on solving Schrödinger equation with normalizing flow model.
- Development of normalizing flow algorithm.
- Code-base reformulation

Research Intern, Ant Group   Aug 2021–Jan 2023
Supervised by Leilei Ding, Jianmin Huang and Wei Chu on cumulative time-series forecasting and large scale multivariate anomaly detection & diagnosis.
- Development of time-series forecasting paper for "red-package" business.
- Development of anomaly diagnosis algorithm for applet monitoring (full-stack).

Undergraduate, School of Chemical Engineering and Technology, Sun Yat-sen University   2016–2020
Supervised by Chang He and Haoshui Yu on chemical process optimization using GAMS.
- Synthesize of "organic Rankine cycle-heat integration-wastewater desalination" Coupled System

EDUCATION

Ph.D. Control Theory & Engineering, Zhejiang University   (exp.) 2025
B.S. Chemical Engineering & Technology, Sun Yat-sen University   2020

SERVICES

Reviewer,
- **Conference**: ICLR-2024 ICML-2023, ICML-2024 ,
- **Journal**: IEEE TNNLS

AWARDS

Undergraduate National Scholarship, Ministry of Education (China)   2018,2019
The First Prize Scholarship of Sun Yat-sen University, Sun Yat-sen University   2017,2018,2019
One Hundred Outstanding Students of Sun Yat-sen University, Sun Yat-sen University   2021
The First Prize Scholarship, Zhejiang University   2020,2021

COMPETENCES

Languages Chinese (*native*), English (CET-6, 533)

Techniques Python, GAMS, MATLAB, Optimization, Optimal Control

Backends PyTorch, JAX, PyRO

FIRST-AUTHORED PUBLICATIONS (ACCEPTED)

[1] Diffusion Model-based Numerical Tabular Data Imputation: A Wasserstein Gradient Flow Perspective. *The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS 2024), Main Track, Poster* (CCF-A), 2024.

[2] E^2AG: Entropy-Regularized Ensemble Adaptive Graph for Industrial Soft Sensor Modeling. *IEEE/CAA Journal of Automatica Sinica* (Top-1, IF=15.3, JCR Q1, Regular Paper), 2024.

[3] Analyzing and Improving Supervised Nonlinear Dynamical Probabilistic Latent Variable Model for Inferential Sensors. *IEEE Transactions on Industrial Informatics* (CCF-C, IF=11.7, JCR Q1, Regular Paper), 2024. doi: 10.1109/TII.2024.3435466

[4] Variational Inference Over Graph: Knowledge Representation for Deep Process Data Analytics. *IEEE Transactions on Knowledge and Data Engineering* (CCF-A, IF=8.9, Regular Paper), 2023. doi: 10.1109/TKDE.2023.3327415

[5] Unsupervised Anomaly Detection & Diagnosis: A Stein Variational Gradient Descent Approach. In: *CIKM'23* (CCF-B, Short Paper), Birmingham, England, 2023. doi: 10.1145/3583780.3615167

[6] Monotonic Neural Ordinary Differential Equation: Time-series Forecasting for Cumulative Data. In: *CIKM'23* (CCF-B, Applied Research Paper), Birmingham, England, 2023. doi: 10.1145/3583780.3615487

[7] Directed Acyclic Graphs With Tears. *IEEE Transactions on Artificial Intelligence* vol. 4, no. 4, 972-983, 2023. doi: 10.1109/TAI.2022.3181115

[8] Knowledge Automation Through Graph Mining, Convolution, and Explanation Framework: A Soft Sensor Practice. *IEEE Transactions on Industrial Informatics* (CCF-C, IF=11.7, JCR Q1, Regular Paper) vol. 18, no. 9, 6068-6078, 2022. doi: 10.1109/TII.2021.3127204

[9] Stochastic optimization-based approach for simultaneous process design and HEN synthesis of tightly-coupled RO-ORC-HI systems under seasonal uncertainty. *Chemical Engineering Science* vol. 246, 116961, 2021. doi: 10.1016/j.ces.2021.116961

Co-Authored Publications (Accepted)

[1] Optimal Transport for Treatment Effect Estimation. *NeurIPS 2024* (CCF-A, Main Track), 2023.

[2] ESCM^2: Entire Space Counterfactual Multi-Task Model for Post-Click Conversion Rate Estimation. In: *SIGIR'22* (CCF-A, Research Article), Madrid, Spain , 2022. doi: 10.1145/3477495.3531972